

8/17/99

HORSEFLY ALLOTMENT (0882)
KLAMATH FALLS RESOURCE AREA - KLAMATH FALLS, OREGON
RANGELAND HEALTH STANDARDS ASSESSMENT

The following assessment is based on information collected over the last 10-25+ years on the Horsefly allotment. All of the basic information and raw data supporting the statements and conclusions in the following narrative, is at the Klamath Falls Field Office. This includes the information, observations, and results of many years of rangeland monitoring studies and surveys; the field data from the recent Ecological Site Inventory (ESI) efforts; the past (1994-1998) and most recent (2/1999) Section 7 (ESA) consultation information and related end-of-year reports and evaluations; an assortment of riparian, aquatic, and water quality studies; and the observations and professional opinions of resource specialists with field knowledge of the area. The major information analysis for this Assessment was performed during the most recent section 7 consultation - an allotment evaluation functional equivalent. An explanation and description of the different monitoring studies, as well as references to the pertinent BLM Technical References, is found in the 1994 "Klamath Falls Resource Area Coordinated Monitoring and Evaluation Plan for Grazing Allotments", as revised.

One major fact in considering the conclusions of this assessment is that during the 1960's, the Horsefly allotment's grazing use was reduced by almost 44%. This reduced the permitted use from 4731 AUMs to the current 2656 AUMs. This substantially reduced the potential for grazing induced resource problems. It is thought, however, that most of the historical grazing related resource damage dates back to the earlier portions of this century, prior to the grazing controls implemented through the Taylor Grazing Act in 1934.

STANDARD 1 - WATERSHED FUNCTION - UPLANDS - *This standard is being met on the allotment.* The indicators used to evaluate this standard are the results of various trend and condition studies; utilization studies; plant community composition and structure; and various other resource attributes observed during the recent ESI including Soil Surface Factor (SSF), which estimates the level of soil surface erosion, and ground cover components (plant litter, rock material, biotic crusts, bare ground).

TREND

Photo Trend: There is at least one long term photo trend study located in most of the major pastures in Horsefly - Schnipps (2), Water Spreader (1), Norcross (3), Barnes Inlet (1), and Copeland (2). These points were primarily established between 1968 and 1975, although one was established as late as 1994 (Barnes Inlet). A comparison of the photographs, although a qualitative comparison, shows that vegetative conditions have improved slowly since establishment. The photos show that perennial grass, forb, and to some extent shrub, density and vigor has increased. Significant also is the fact that even with the generally poorer than average growing conditions (drought) in the late 80's and early 90's, vegetative conditions, as interpreted

from the photo plots, have at worst remained stable and mostly improved.

Frequency Trend: In addition, a “nested” frequency trend plot was established in each of the following pastures over the period 1991-1995: Schnipps, Water Spreader, Norcross, Copeland, and Round Valley. Three of the frequency trend plots have been re-read in recent years - Schnipps and Copeland in 1996 and the Water Spreader in 1998. Unfortunately, the first study readings in Schnipps and Copeland were not repeatable, making the 1996 readings effectively the first ones. Without two widely separated (by time) readings, there is nothing to compare.

However, for the Water Spreader, there are two separate readings (1993 and 1998). The information shows that the perennial bluegrasses significantly increased (good) as did the annual brome grasses (not necessarily good, but probably reflecting the moist year and disturbed character of this area). The perennial seeded wheatgrass also increased but just short of statistically “significant” (at the 95% confidence interval level). Overall interpretation is that condition trends in this seeded area are static to upwards. The other frequency studies are planned for re-reading during the period 1999-2001.

Observed Apparent Trend: This was a collateral observation as part of the ESI efforts. Although the field data has yet to be compiled and input into a data base where it could be accurately weighted by acres, a check of all the inventory worksheets and field maps shows that virtually all of the allotment was estimated to have either static or upward trends. Specifically, of the 58 ESI field worksheets covering the allotment, 21 had estimated upward trends, 36 static trends, and 1 downward trend.

The one estimated downward trend area actually rated as late seral (i.e. had sufficient native vegetation to rate at least 50% of PNC), but was “downgraded” due to low production and a substantial “weed” component. It is located in the extreme western side of the Copeland pasture within one of the poorest condition areas in Gerber (elaborated on in the condition section). Considering the long term history of the area, it should actually be considered to have more of a static trend, with the downward estimate reflecting the current depressed condition and long past abuse, more than the current actual trend.

Of the estimated 36 static trend areas, 10 were mid seral, 17 were late seral, and 8 were PNC - all in acceptable or better ecological condition. 8 of the 10 mid seral/static trend areas actually rated out as late seral, but were “downgraded” due to suppressed biomass/production - largely because of recent underburning and the accompanying shrub component loss. Even though the underburning can result in a temporary suppression of ecological conditions, the overall mid to long term (5-10+ years) effects will be to gradually improve ecological conditions with the filling in of the shrubs and to some extent, the herbaceous layer. This was a consistent observation during the ESI survey in the older underburn areas.

As a general observation, the late seral and PNC areas are less likely to show upward trends since they are already in an elevated ecological condition and have less “room” to improve. (See next

section for more information on ESI.)

CONDITION

Key Area Condition: Site specific condition studies were established and read in several of the pastures in 1983 at existing photo trend plot locations. Some of these sites were approximated and formally re-established/re-read recently (1994-6) using the Ecological Site Inventory (ESI) technique. This includes studies in the following pastures (reading dates in parenthesis): Schnipps (1983 & 1996), Norcross (1983 & 1994), Copeland (two studies - 1983 & 1995/1996), and Round Valley (1995). This condition study allows for an initial assessment of the current vegetative conditions and establishes a baseline for future comparison on a specific key area. Although the two widely separated readings (1983 and mid-1990's) cannot be compared precisely, some analysis and interpretation is possible using the most recent Gerber area specific Ecological Site Descriptions for the pertinent vegetation communities. These follow:

Copeland pasture (study #HF-6): This key area is located within the long term (probably over 100 years) historic trailing area between the private ranch lands and the public lands (see discussion in next section). This key area is within a "Juniper Claypan 16-20" ecological site. The private land proximity and terrain have contributed to this area probably being one of the most heavily grazed locations in the north half of the Gerber Block since the turn of the century. The conditions reflect this. The 1983 reading showed a condition rating of 28 - low mid seral. However, the 1996 reading was 35; still mid seral, but with evidence of some slow improvement. The 1998 ESI rating for the general vegetation zone containing the key area was 56 - a late seral rating that was "downgraded" to mid seral due to diminished production. This information implies that the site potential has been permanently compromised (i.e. soil loss) with the current vegetation community potential being something much less than PNC. Fortunately, this key area represents a very small percentage of the entire Horsefly allotment.

Copeland pasture (study #HF-4): This key area is located halfway between the Big Adobe and Dog Hollow Reservoirs, and thus was probably subject to above average grazing pressure since the original construction of the reservoirs 60-70 years ago (both reservoirs were enlarged about 40 years ago). This study is located within a "Shallow Stony 10-20+" ecological site. The 1983 reading showed a condition rating of 34 - mid seral. The 1995 re-reading was 55 - late seral. This indicates substantial improvement in conditions which is very significant because this ecological site typically has a low response potential due to shallow soils. There was no close-by ESI survey reading done in 1997-98 for direct comparison, although most of the similar areas in this vicinity also rated as late seral.

Schnipps pasture (HF-5): This key area is located in the mixed vegetation "meadow" area 300-400 yards north of Tillie Spring in what is referred to as Schnipps Valley. This is also another area which has invariably received high utilization levels over the past century. This meadow area also appears to have been manipulated and seeded in the past and is a mix of several different ecological sites. This key area does not really represent

the bulk of the Schnipps pasture which is almost entirely the following ecological sites: "Juniper Claypan 16-20", "Pine-Mahogany-Fescue 12-18", and "Pine-Sedge 16-24". A comparison of the two readings shows that the vegetation is roughly the same in 1996 as in 1983. The 1998 ESI reading for Schnipps Valley was split into two write-ups - one for a "Dry Meadow" site and the other for a "Wet Meadow" site. Both were rated as late seral, although some of the area did not "fit" either ecological site description very well. Norcross pasture (HF-1): This key area is located ½ mile west of Long Branch Creek. This study is in a "Stony Claypan 12-20" ecological site. The 1983 reading was 67% - late seral. The 1995 reading and the nearby 1997 ESI survey reading were both 75% - almost PNC. The conclusion of these readings is that the area is stable at an elevated ecological rating, with a possible slight upwards trend. Round Valley (HF-8): This key area is located just west of the CCC road on the east side of the pasture. It is in a "Stony Claypan 12-20" ecological site in which the condition study was established in 1995; there was no 1983 reading. This site had a rating of 59% - late seral. The 1997 ESI survey write-up covering this area was 68% - also late seral. However, this write-up was done about 2-3 miles to the south of this key area, in another allotment, making it harder to compare directly.

Ecological Site Inventory: During the 1997 and 1998 field seasons, the BLM performed an extensive ESI survey in the Gerber block. All the field data were collected for the Horsefly allotment, providing a broader ecological "snapshot" of the area than just the key area condition. ESI is primarily an upland vegetation oriented survey, although it does describe some meadow and other water dependent areas. The data have not been fully compiled and entered into the data base/GIS.

However, analysis of the field data (using the vegetation write-ups and field maps and estimating on an acres weighted basis) does lead to some observations and conclusions. A primary conclusion is that the majority of the Horsefly allotment (~95%) is in either Late Seral or PNC. As noted earlier, these condition classes are indicative of fully functional upland ecological and watershed conditions. This includes all of the non-pine dominated ecological sites in the Norcross, Wild Horse, Water Spreader, Barnes Inlet, Barnes Valley Riparian Pasture (BVRP), Schnipps, and Round Valley pastures.

Virtually all of the pine dominated ecological site areas throughout the allotment (and the north Gerber Block in general) are also in Late Seral, but have substantially reduced biomass due to timber harvest, and in particular, recent prescribed burning. This underburning has concentrated on the pine areas and has reduced the understory shrub component significantly - a component that often takes many years to regenerate. However, this underburning has also reduced the duff layer underneath the trees, allowing for a resurgence of the herbaceous community. All of this regeneration is occurring incrementally and the trend in most pine areas is definitely upwards. As a general statement about conditions within the allotment, it can be said that the more a site has pine potential, the more likely it is to have been disturbed and in a temporarily depressed condition state.

In the two early spring pastures (Adobe and Copeland) the above observations are also largely true, although there are some sagebrush and/or juniper dominated areas in the lower (western) portions of these two pastures that rate as Mid Seral or "fair" condition. These areas immediately below and west of Goodlow Rim are the closest BLM administered lands to the private ranches along the east side of Langell Valley. Historically, these areas received the highest use on the allotment due to the ranch proximity and the fact that these areas are the on and off "trailing corridor" for the use of the public lands. The condition "problem" is due to excessive use that occurred decades ago. These Mid Seral areas - especially in the upper ends of the class (i.e. 40-50% like PNC) - are considered functional but typically lack an "ideal" plant community. However, under the current management system, these areas are exhibiting static to upward trends. As noted earlier, it is thought that these areas may have lost the potential to become PNC due to soil loss; even if grazing were totally absent for a long period of time.

There is only one small area in Horsefly that rated as Early Seral or "poor" condition. This is in the bed of an old artificially created reservoir of about 30 acres in the Round Valley pasture. This "reservoir" does not retain water due to a breached dike and is dominated by weedy grasses and forbs. It is not considered a resource concern and is not being perpetuated by grazing. This area's site potential has probably been irrevocably altered.

One final - though very significant - ESI observation is that most ecological sites in the Gerber area have been and are continuing to experience increased densities of western juniper. These increases are probably primarily due to the combined effects of fire suppression and historic livestock grazing. The juniper increase has the potential to dramatically effect ecological conditions more than it already has, in the near future. This could include decreased forage production for wildlife and livestock, increased erosion potential due to diminished ground cover, mono-culture vegetation types that decrease wildlife diversity, decreased water availability, and other impacts. These observations are summarized as follows:

The spaces between the older junipers (150-1000+ years old) in the "old" juniper sites (Juniper Claypan 12-16" & Juniper Claypan 16-20") are being slowly filled in with much younger trees - way beyond what would be needed for replacement of the older trees as they die off (very slow!).

The shallow soil, non-juniper sites (the different Claypan sites and the Shallow Stony 10-20"), are all experiencing varying increases in juniper, with the juniper generally increasing proportionally as soil depth increases. However, some of these areas are also seasonally (winter/spring) saturated - particularly the Shallow Stony 10-20" - which appears to suppress the juniper encroachment.

Most of the other, deeper soil and non-pine ecological sites, that should have juniper as a minor late seral/PNC component, are experiencing massive increases in juniper density. These include the following ecological sites: Juniper-Pine-Bunchgrass 12-16", Juniper Loamy Hills 10-14", South Slopes 14-18", Shrubby Loam 16-20", and to some extent, Mahogany Rockland 10-20". Of particular concern is the fact that in many of the Juniper-Pine-Bunchgrass and Mahogany Rockland sites, the mountain mahogany

component is collapsing due to the juniper competition. These areas are probably the most important to consider for juniper reduction activities as they would have the highest beneficial results to wildlife.

The ponderosa pine areas (Pine-Mahogany-Fescue 16-20" and Pine-Sedge-Fescue sites) are also experiencing dramatic increases in juniper. This competition is placing pressure on the pine component of the community and is also causing the same problems with mountain mahogany as noted above.

UTILIZATION STUDIES

Utilization information has been collected on this allotment since at least 1984. The utilization data from the established points has shown overall appropriate (moderate or less) average upland utilization - particularly since 1992. The utilization pattern mapping - done 5 separate years since 1992 - has also confirmed consistently acceptable overall patterns of use throughout all pastures of this allotment. The light-moderate utilization levels are within the KFRA ROD/RMP parameters and indicate long term stability and grazing pressure that is appropriate to maintaining the good vegetation conditions. Even though occasional points in occasional years have shown heavy use, there appear to be no chronically overused areas.

OTHER ESI RELATED OBSERVATIONS

Soil Surface Factor (SSF): As a collateral observation during the ESI, the SSF was estimated for each soils/vegetation site write-up area. Although the field data have not been compiled and input into a data base as noted earlier, a check of all the inventory worksheets and field maps shows that the majority of the allotment acreage (90%+ on an estimated acres weighted basis) is in either the "stable" or "slight" erosion condition classes. Specifically, 44 of the 58 ESI worksheets estimated the erosion in these two categories. These two lowest erosion classes imply generally stable conditions. The remaining areas (14 worksheets) were mostly in the low end of the "moderate" erosion class. The highest rated area (highest erosion condition class) was mid moderate and located in the poorer condition areas discussed earlier - on the extreme western side of the Copeland and Adobe pastures. As with the ecological site rating, the SSF reflects past use of the area. Vegetative information points towards this area having a slow upwards trend.

Cryptogamic Crust Rating: Another secondary observation made during the ESI was a general rating of the existing cryptogamic crusts (a ranking system recommended for ESI, by Jane Belnap, a noted NPS expert on crusts) from between the lowest rating of 0 ("bare ground") to the highest of 10 ("Cyanobacteria, big bumps, lots of lichens and mosses - >20%" (cover)). The average rating (non-acres weighted) for the Horsefly allotment was just over 4.5 - a moderate crust rating. This would be considered neither exceptional or unacceptable, but adequate, given the limited knowledge of these crusts and the long historical use of the allotment for cattle grazing. From an ecological site description perspective, the more a site was dominated by low sagebrush and grass (majority of the allotment) the higher the crust rating tended to be.

Conversely, the more a site was dominated by big sagebrush and/or pine, the lower the rating. The crust ratings for the juniper sites were in the middle of these other two groups.

STANDARD 2 - WATERSHED FUNCTION - RIPARIAN/WETLAND AREAS - *This standard is being met on the allotment.* The indicators used to evaluate this standard are the results of the various riparian monitoring studies and Proper Functioning Condition (PFC) determinations.

RIPARIAN MONITORING STUDIES

Riparian Photo Points: Riparian photo points were originally established on Long Branch Creek (8 points) and Barnes Valley Creek (14 points) in 1985. The photo's have been re-taken at least once every year since 1990. Each point has three different photos taken at distinctly different angles - upstream, downstream, and across.

A comparison of the photo points for both creeks, although qualitative in nature, shows that the condition of the BLM riparian areas have improved gradually over the last 14 years. On both creeks, most photos show significant increases in herbaceous and/or shrub densities, some narrowing and deepening of the stream channels, and overall increases in protective streamside cover. The most dramatic changes are, not surprisingly, in areas which started out the study period in the "poorest" shape. However, even in the areas which began with reasonably good conditions, the photos show no areas where conditions have degraded. At worst some of these areas have been static - but static in at least acceptable condition levels. This has been no small accomplishment considering the drought conditions prevalent during the earlier portions of the study period. Recent, consecutive, ample precipitation years - in hand with proper grazing management systems - have contributed to the upward trend in riparian conditions.

(NOTE: Even the riparian areas on the unfenced private land - as represented by photo point LB-R-8 on Long Branch Creek, near the haul road bridge - have shown some improvements in herbaceous streamside cover, even though this riparian area is grazed each year. What is lacking in this area, compared to the enclosed BLM areas, is a regeneration of willows and other riparian shrub species which are possibly being suppressed by the June grazing. However these may not be willow dominant areas ecologically.)

It should be noted that both Long Branch and Barnes Valley Creeks become intermittent in the mid/late summer and early fall, and often into early winter. This flow regime limits the amount of sediment available to rebuild stream banks. Even during spring run-off the observed amounts of sediment in these creeks appears limited. The result of all this is that the process of rebuilding these creeks to presumed pre-settlement conditions will be very slow, and if even possible, may take centuries.

Streambank Stability Rating: This study was established and read first in 1996 and re-read in 1997 and 1998 on Barnes Valley Creek. The BLM portions of Long Branch Creek are totally

excluded by fencing. This study is designed to determine the post-grazing impact of livestock induced mechanical damage to stream banks. As stated in the B.O., the standard is that "At least 90 percent of natural stream bank stability shall be maintained..." and that "No more than 10 percent of the natural streambank stability may be altered by livestock during the authorized grazing season." Every reading has been between 97 and 99.8% stability - well within the standard.

Utilization Studies: A "Key Forage Plant Method" utilization point was established and read in 1995 and 1998 in the BVRP (the most recent years that grazing occurred in the BVRP). This point was established at an existing photo point location (BV-R-17) mid-way on Barnes Valley Creek and is read only in years that grazing takes place. The utilization measured 10% in 1995 (slight use) and 27% in 1998 (light use) on key herbaceous riparian species. No use was noted on any riparian shrubs. This grazing use is consistent with the Land Use Plan and Biological Opinion utilization objectives, which were designed to promote stability and upward trends.

Stream Cross Section/Greenline Riparian Vegetation Plots: One of these riparian classification studies was established on Barnes Valley Creek in 1995 and two were established on Long Branch Creek (one in 1994 and one in 1995). An interpretation of all 3 studies information shows that both creeks, in the vicinity of the study sites, have a "high stability rating"; a rating consistent with and supportive of the following PFC determinations.

PROPER FUNCTIONING CONDITION DETERMINATIONS

Evaluations of riparian conditions - "Proper Functioning Conditions (PFC) Determinations" - were performed for the public land portions of Barnes Valley and Long Branch Creeks in 1994. This field evaluation found that all of Barnes Valley Creek, inside of the BVRP, was "Proper Functioning Condition" with "upward trend". Inside the Barnes Inlet pasture, the "creek" was rated as "Non-functional" with the trend "not apparent". The Inlet portion of this creek is entirely affected and controlled by the fluctuating levels of Gerber Reservoir, whose operation is not within BLM control. Long Branch Creek was determined to be PFC with "upward trend", except for a 200' water gap portion between the two long term exclosures, which was "Functional - at Risk" with the trend "Not Apparent". This gap was completely fenced in May 1995, precluding all livestock use for the past 5 grazing seasons. This gap would be considered to now have an upward trend. Field observations made over the past 5 grazing seasons (1995-1999) indicate that conditions in all of these riparian areas are at least equivalent (i.e. as functional), and largely better, than when the PFC was done.

In FY 2000 (or later), lentic PFC assessments are planned to be completed by an interdisciplinary team and would include the spike-rush (*Eleocharis*) meadows within this allotment. At this point in time, and based on the 1997-1998 ESI field work finding all of the spikerush meadows to be at or near PNC ("excellent") condition, it is thought that these areas will all be rated as PFC with static or upward trends.

STANDARD 3 - ECOLOGICAL PROCESSES - *This standard is being met on the allotment.* The indicators used to evaluate this standard are the same as listed for Standards #1 and #2. Of particular importance are the studies and information provided in Standard #1, since the vast majority of the allotment is upland vegetation. However, all of the information presented in Standards #1 and #2 strongly indicate that the ecological processes of energy flow, nutrient cycling, and the hydrologic cycle are functioning at least adequately and probably fully on the allotment.

STANDARD 4 - WATER QUALITY - *This standard is not being met.*

Barnes Valley Creek, Long Branch Creek, and Miller Creek, which forms the boundary between Horsefly and the neighboring Dry Prairie allotment, do not meet the state standards for summer water temperatures (so called “303d list”). The inability to “meet” the water temperature standard on Barnes Valley and Long Branch creeks is thought to be almost entirely a function of the naturally intermittent (summer/fall) nature of both creeks. The flows and temperature of Miller Creek are a function of the Gerber Dam and Reservoir over which the BLM has no control.

BLM administered livestock grazing is not presently considered a factor in the non-attainment of this Standard. Because of changes in grazing management made during the past 10-15 years - including the exclusion or segregation of these creeks into discrete areas, the multiple pasture rest-rotation “flash” grazing system, and the very short term grazing along Barnes Valley creek above the reservoir (7-10 days every 3 years) - the current livestock use is believed to be making as much progress as possible towards meeting this standard. The watershed areas immediately above the BLM for Long Branch and Barnes Valley creeks are privately owned or Forest Service administered, and not within our management control. It is thought that the current state standard for summer water temperature cannot be met on any of the three creeks, even with no livestock grazing and/or pristine conditions. In addition, BLM grazing management is meeting the USF&WS Biological Opinion requirements for the areas around both creeks, as it pertains to appropriate habitat for the endangered shortnose sucker.

In the near future (next 1-3 years) a formal Watershed Analysis is planned for the Barnes Valley Creek watershed. At that time water quality issues would be analyzed in depth and, if problems are found attributable to public lands, appropriate solutions proposed.

STANDARD 5 - NATIVE, T&E, and LOCALLY IMPORTANT SPECIES - *This standard is being met on the allotment.* The indicators for this standard are various population studies and monitoring; the Ecological Site Inventory (ESI); and the vegetation monitoring and studies noted in Standards #1 and #2.

SHORTNOSE SUCKER & SECTION 7 CONSULTATION

This allotment has been under formal Section 7 (ESA) consultation since 1994 in regards to the

grazing management and the Federally listed (endangered) shortnose sucker. Through this consultation process it has been affirmed that the current grazing management is compatible with the survival of the sucker because, as currently managed, the use is compatible with the maintenance of a healthy functioning watershed and landscape. In addition, the apparent spawning success of the suckers in Barnes Valley creek has been consistently good, even during the drought years of the late 80's and early 90's. This is affirmed by the consistently diverse age structure of the sucker population in Gerber Reservoir. Barnes Valley Creek is the most important spawning creek for the sucker and this spawning success is indicative of acceptable (or better) watershed conditions.

The 1995 Biological Opinion issued by the USF&WS (1-ERO-95-F-001) for the allotment found that the grazing was "...not likely to jeopardize the continued existence of the sucker..." or "...result in the destruction or adverse modification of proposed critical habitat..." (Proposed Critical Habitat Unit 6 - Gerber Reservoir and Watershed). The recent re-consultation process has indefinitely affirmed and continued, via a USF&WS memo dated April 6, 1999, the 1995 Biological Opinion. The area around Gerber Reservoir has also been consulted on in the past for bald eagles.

OTHER WILDLIFE

The recent ESI has shown that the ecological conditions on the allotment are good to excellent. Specifically, ~95% of the allotment is in either Late Seral or at Potential Natural Community (PNC). This is the strongest indication that the vegetation habitat for wildlife species is in good condition and not a significant limiting factor.

There is also no known or suspected significant forage competition problems between the major wildlife grazing species and livestock. The KFRA ROD/RMP and EIS allocated forage to wildlife as follows: 495 AUMs for deer, 30 AUMs for Elk, and 181 AUMs for antelope. Post livestock grazing average utilization levels are consistently light, implying plentiful residual herbaceous forage for large wild herbivores. Utilization pattern mapping also shows significant areas of the allotment with little or no utilization; areas that are available for wildlife use. This includes at least 2, and often 4 pastures, rested each year from all but the limited, dormant season, fall trail use. The majority (~70%) of the grazing use is completed early in the year (by July 1st) for most of the pastures. Late season use of important browse species - upland and riparian - has not been a problem based on rangeland monitoring studies to date.

PLANTS

Vegetation in the allotment ranges from shrub-steppe to open juniper/ponderosa pine forests. The major shrub throughout most of the area is low sagebrush (*Artemisia arbuscula*), but big sagebrush (*Artemisia tridentata* ssp. *vaseyana*) and bitterbrush (*Purshia tridentata*) are present in the places where the soil is deeper. Annual grasses are common, while Idaho fescue (*Festuca idahoensis*), Sandberg's bluegrass (*Poa*

secunda), and bluebunch wheatgrass (*Pseudorogeneria spicata*, formerly *Agropyron spicatum*) are the most common native bunchgrasses. Common throughout the area is curl-leaf mountain-mahogany (*Cercocarpus ledifolius*) and scattered birchleaf mountain-mahogany (*C. montanus*) - both important habitat components for big game and other wildlife species.

Scattered riparian communities are present along the edge of Gerber reservoir and along the ephemeral lakebeds, creeks, and ditches. Typical associates are cattail (*Typha latifolia*), sedges (*Carex* spp.), spike-rushes (*Eleocharis* spp.), rushes (*Juncus* spp.) and willows (*Salix* spp.).

As noted previously the ecological conditions of the allotment, as determined by the ESI, are good to excellent. The dominance of functional vegetation communities implies that the potential for noxious weed invasion is suppressed since the conditions for weed spread are largely lacking. The ESI and ongoing rangeland monitoring studies have not revealed significant concentrations of medusaehead, cheatgrass, or other annual bromes in this allotment. The one minor exception is the previously discussed areas below and west of Goodlow Rim.

Special status species: Fringed campion (*Silene nuda* ssp. *insectivora*) occurs at several sites within the allotment. Fringed campion is on the Natural Heritage Program List 4 (Taxa which are of concern, but are not currently threatened or endangered. Includes taxa which are very rare but currently secure, as well as taxa which are declining in numbers or habitat but are still too common to be proposed as threatened or endangered), and a BLM tracking species in Oregon and Washington.

Seven populations of fringed campion were located during a 1996 survey in T39S R14E in sections 21, 15, 9, 5, and 4. Additional populations were previously known from sections 4 (near Boundary Spring), 10 (at Norcross Spring), and 13.

Fringed campion is known from numerous sites in Lake and Klamath counties and south into California. It is found on deeper soiled sagebrush-steppe habitat often associated with vernal streams, washes and ponds. It seems to tolerate some disturbance. It is doing well under the current grazing regime.

Long-bearded mariposa lily (*Calochortus longebarbatus* var. *longebarbatus*) may occur in the Horsefly Allotment since it also occurs in the Gerber area, but has not yet been documented from within the allotment. Long-bearded mariposa lily is on List 1 of the Oregon Natural Heritage Program (Taxa which are endangered or threatened with extinction or presumed to be extinct throughout their entire range), and is a Bureau sensitive species in Oregon and Washington.

Noxious weeds: Noxious weed populations occur throughout the allotment. Species include musk thistle (*Carduus nutans*), Canada thistle (*Cirsium arvense*), Russian knapweed (*Acroptylon repens*), leafy spurge (*Euphorbia esula*), St. Johnswort

(*Hypericum perforatum*) and bull thistle (*Cirsium vulgare*).

Of particular note is the Barnes Creek Inlet between the boat ramp and the ford which supports a large population of musk thistle and Canada thistle which occupies both sides of the inlet. The Russian knapweed population at the ford on Barnes Valley Creek is the only known site for that species on the Gerber plateau. The leafy spurge population adjacent to the Miller Creek campground is one of three known sites of this species in the Gerber area, which has the potential to become very disruptive. These sites are treated annually by the noxious weed program to reduce their abundance and limit their spread, and additional inventory of the area will reveal any previously undetected populations which will also be scheduled for treatment.

Areas disturbed by human and/or livestock activities provide habitat in which noxious weeds have a competitive advantage relative to native species. Current grazing management within this allotment has not resulted in areas of excessive disturbance, and has resulted in upwards trends in vegetation condition over much of the area. Therefore, grazing management does not seem to be a major contributing factor to the spread of noxious weeds within the Horsefly Allotment.

Current Management and Recent Management Changes

The following information is from the recent section 7 consultation information for the Horsefly allotment, pages 45-47. It gives an comprehensive overview of the current grazing management and is included here largely unedited:

The maximum number of cattle that can be grazed is approximately 745 head during the 4/15 through 6/30 grazing season. Additionally, up to 600 cattle are expected to make use during the fall trail through period, which is between 10/1 and 11/15. This latter increased level of fall use and lesser amount of spring use is a change for 1999. It is explained more fully later in this section.

Based on the past 7+ years of monitoring studies and field observations, the forage production within the allotment can accommodate the full numbers with the current grazing rotation system. As with all of the consultation allotments, continuous grazing season observations/monitoring will be made to ascertain whether different livestock move and/or off dates are required on a week-to-week basis. The planned grazing is made with the assumption that we receive, more or less, average growing conditions. If chronic drought conditions were to resume, we may alter management and, if needed, re-consult on those alterations. However, most of the changes that could be envisioned because of drought would be within the parameters already consulted on.

Due to the importance of the pastures that contain Barnes Valley and Long Branch creeks (primarily the Norcross and Barnes Valley Riparian pastures), the grazing rotation system is designed around these areas use in order to maintain and enhance creek and riparian

stability. The 4 "early" pastures - Adobe, Copeland, Round Valley, and Schnipps - are their own rest-rotation system during the 4/15 through 5/31 period each year, with one of the pastures receiving total growing season rest each year. Even in grazed years, no pasture will receive more than about 15-20 days use. Past monitoring data has shown that in virtually all years - including drought years -utilization within these four pastures typically averages slight to light with the established "flash" grazing system.

The Water Spreader and Wildhorse pastures are to be used in conjunction with each other, as in the past. They will be rotated somewhat with the Barnes Inlet pasture in order to give Water Spreader and Wildhorse some rest. These two pastures are also scheduled for use in some years in a way that allows for more deferment (i.e. less use) of the Norcross pasture.

The Barnes Inlet and Barnes Valley Riparian (BVRP) pastures are to be used as short term transition pastures when cattle are moved from one of the 4 "early" pastures, or the Water Spreader/Wild Horse pastures, to the Norcross pasture in early to mid June. The Barnes Inlet pasture use would be variably 5 to 10 days (maximum) in a two out of three year rotation with the BVRP pasture (i.e. 1999 - Inlet, 2000- Inlet, 2001 - BVRP, 2002 - Inlet, ad infinitum). Due to their location, one of these two pastures must be crossed in order to move to the Norcross pasture in June. The planned rotation will allow the permittee a location to gather cattle to in preparation for the move to Norcross. In some years (e.g. 1999) the Inlet pasture will be scheduled for 10 days of use in order to allow for rest of the Water Spreader/Wild Horse pastures and to defer use on the Norcross pasture a few more days. In the one out of three years when the BVRP is used (i.e. 2001, 2004,...), no more than 5-7 days of full herd use will be allowed within that pasture. During that period, cattle use will be emphasized on the BVRP's ample uplands. Less use may be in order if poor growing conditions or other resource concerns dictate such in the future.

The Norcross pasture will continue to be scheduled as the "late" (June) pasture with variably shorter seasons-of-use periods than the pasture has been grazed in recent past years. With full cooperation of the permittees on the allotment, we have been implementing a somewhat shortened grazing season on this pasture. The primary reason is to enhance the conditions of the Long Branch Creek riparian areas on private lands. Norcross is not scheduled for complete rest for several reasons: 1. A substantial portion of the Norcross pasture is unfenced private land; 2. This pasture is the connecting transition area from the BLM allotment to the USFS permits and must be crossed anyway; and 3. We believe that given the excellent vegetation conditions, along with the rotations and the shorter seasons-of-use, we can achieve riparian and upland vegetative objectives with every year grazing. In any event, Norcross still will have no grazing during the majority of the growth period, like all the other pastures in the allotment.

Fall trailing use is planned to be expanded in the future at the request of the primary

permittee (Circle 5), and with the full concurrence of the BLM. Due to this increased use in the fall, the spring use will be reduced proportionally in order for the grazing use to stay within permitted levels. Fall use is not expected to exceed 850 AUMs of total forage consumption and would not be expected to have any impact on allotment conditions, as it would be dormant season use in the areas away from the sucker consultation creeks. By decreasing the use during the active growth season, conditions in the early pastures could be enhanced further (*see note below for more information on trailing).

Utilization will be informally checked partway through the scheduled grazing period in all pastures, as appropriate, to affirm that the scheduled use period is appropriate given the conditions specific to that given year. If vegetative conditions do not warrant the full grazing season (i.e. utilization objectives are estimated to be exceeded prior to the end of the scheduled use period), then the rotation schedule may be accelerated, with an earlier move to the next scheduled pasture. The many years of past monitoring data show, however, that this is unlikely - even in drought years. The proposed rotations also allow every pasture but Norcross, to be completely rested at least once every four years. Due to the short season of grazing - no more than about 20 days in any pasture - this rotation system always allows for no grazing during the majority of the growth season.

Given the currently good conditions of most of the public land portions along Barnes Valley and Long Branch Creeks, as concluded by our "Proper Functioning Condition" determinations, we believe that continuing the current grazing system will maintain and enhance habitat conditions for the shortnose sucker. We also believe that this grazing system will continue to stabilize and improve the conditions of the other important intermittent drainages and upland areas within the allotment.

* Also from the consultation information (page 50) is the following information about the fall trailing use:

Trailing use through the allotment in the fall is planned to be somewhat different in the future (1999 on) than in recent past years. The fall use will become more of an authorized use period than just trailing use back to the ranch. Cattle would be moved off of the USFS lands...in early October to the Water Spreader and Wild Horse pastures, where the irrigated areas would provide for roughly half of the fall forage. In late October through mid-November, the cattle would be allowed to drift back to the private ranch lands, through one of two routes. This would be either through the Schnipps and Adobe pastures ("north route") or through the Round Valley and Copeland pastures ("south route"). This trail back "route" would alternate each year, starting with Schnipps/Adobe (north) in 1999. This will spread out the last half of the trailing use period through several pastures. This type late season use, when the plants are dormant, is expected to be a ecologically benign. The lessened use in the spring would be, if anything, helpful to the vegetation communities.

See the section 7 consultation package, entitled - "1998 End-of-Year Report and Re-initiation of Consultation Information for 1999 to Indefinite for Grazing Activities on the Dry Prairie, Horsefly, and Pitchlog Allotments" for more information, including the future grazing schedule mentioned above.

Proposed Management Changes

No changes in grazing management are proposed because the current grazing management is either meeting the Standards, or is making significant progress towards meeting them - where grazing is known to be a resource issue. The current grazing management is also required to be followed under the most recent Biological Opinion (from the ongoing Section 7 consultation) for Horsefly.

Several rangeland improvement/restoration projects could be pursued that would assist in enhancing resource conditions. One possible project would be to patch the dike of the old reservoir in the Round Valley pasture (noted in the condition section on page 5) restoring its water holding capacity. This would at least diminish the currently weedy vegetation and if the pond retains water long enough, possibly convert the vegetation to a spike-rush community.

Juniper reduction should also be pursued in most ecological sites on the Horsefly allotment. This needs to be seriously considered if we are to stop the deterioration of conditions on most of the ecological sites in the Gerber Block. Specifically, the following juniper removal or thinning should be considered as listed below (with dominant ecological sites in Gerber listed):

Virtually all juniper could be removed from the true non-juniper ecological sites (Shallow Stony 10-20", Stony Claypan 14-20", Claypan 14-20", and to a limited degree - Claypan Bottom 12-18"). Non-juniper sites should have 0-1% juniper.

Most of the younger trees (<100 years) could be removed from the true "old" juniper sites (Juniper Claypan 12-16", Juniper Claypan 16-20").

Reductions to achieve a mix of age classes could be done in the other juniper potential sites (Juniper-Pine-Bunchgrass 12-16", Juniper Loamy Hills 10-14", South Slopes 14-18", Shrubby Loam 16-20", Mahogany Rockland 10-20"). Juniper amounts should reflect amounts allowed in ecological site descriptions.

Juniper should be brought closer to that described in the ecological site description on the ponderosa pine sites, with all age classes represented but as a minor component (Pine-Mahogany-Fescue 16-20", Pine-Sedge-Fescue).

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Determination

- (X) Existing grazing management practices and/or levels of grazing use on the Horsefly allotment promote achievement or significant progress towards the Oregon Standards for Rangeland Health and conform with the Guidelines for Livestock Grazing Management.
- () Existing grazing management practices and/or levels of grazing use on the Horsefly allotment will require modification or change prior to the next grazing season to promote achievement of the Oregon Standards for Rangeland Health and conform with the Guidelines for Livestock Grazing Management.

/s./ Teresa A. Raml
Manager, Klamath Falls Resource Area

9/3/99
Date